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REMARKS/ARGUMENTS

Claims 3-7, 9-13, and 21-28 are pending in this application. By this Amendment, Applicant AMENDS claims 3-7 and 9-13, CANCELS claims 1, 2, 8, and 14-20, and ADDS claims 21-28.

The Examiner objected to the Specification for allegedly failing to provide proper antecedent basis for the claimed subject matter. Applicant has amended the Specification to explicitly recite the feature of "completing manufacturing of the piezoelectric transformer apparatus." Applicant respectfully submits that this amendment is supported by the originally filed claim 14. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the objection to the Specification.

Claims 1 and 3-20 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter that was not described in the specification in such a way as to reasonably convey to one skill in the relevant art that the inventors, at the time of the application was filed, had possession of the claimed invention. Applicant has amended claims 4 and 5 to be in independent form to include all the features of base claim 1 except the feature of "before the piezoelectric transformer apparatus is assembled into an electronic device," which the Examiner alleged was not described in the originally filed specification. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1 and 3-20 under 35 U.S.C. § 112, first paragraph.

Claims 1, 3, and 10-17 were rejected under 35 U.S.C. § 102(b) as being anticipated by Massa (U.S. 4,190,937). Claims 4-9 and 18-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Massa in view of Kawamura et al. (IEEE Publication). Applicant has canceled claims 1, 2, 8, and 14-20. Applicant respectfully traverses the rejection of claims 3-7 and 9-13.

Claim 4 has been amended to recite:

"A method for manufacturing and screening a piezoelectric transformer apparatus including a piezoelectric member having an

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actuator and a generator provided in the piezoelectric member, the method comprising the steps of:

- beginning manufacturing of the piezoelectric transformer apparatus;
- connecting a load impedance to said generator;**
- applying a stress signal to said actuator to vibrate the piezoelectric transformer apparatus;
- identifying whether the transformer apparatus has a mechanical latent defect; and
- completing the manufacture of the piezoelectric transformer apparatus after the step of identifying whether the transformer apparatus has the mechanical latent defect; wherein
- the value of the load impedance is not less than about ten times an output impedance of the piezoelectric transformer apparatus." (emphasis added)**

Claim 5 has been amended to recite:

"A method for manufacturing and screening a piezoelectric transformer apparatus including a piezoelectric member having an actuator and a generator provided in the piezoelectric member, the method comprising the steps of:

- beginning manufacturing of the piezoelectric transformer apparatus;
- connecting a load impedance to said generator;**
- applying a stress signal to said actuator to vibrate the piezoelectric transformer apparatus;
- identifying whether the transformer apparatus has a mechanical latent defect; and
- completing the manufacture of the piezoelectric transformer apparatus after the step of identifying whether the transformer apparatus has the mechanical latent defect; wherein
- the value of the load impedance is not more than about one tenth of an output impedance of the piezoelectric transformer apparatus." (emphasis added)**

Applicant's claims 4 and 5 recite the features of "a piezoelectric transformer apparatus including a piezoelectric member having an actuator and a generator provided in the piezoelectric member" and "connecting a load impedance to said generator." Applicant's claim 4 also recites the feature of "the value of the load impedance is not less than about ten times an output impedance of the piezoelectric

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transformer apparatus." Applicant's claim 5 also recites the feature of "the value of the load impedance is not more than about one tenth of an output impedance of the piezoelectric transformer apparatus." With the improved features of claims 4 and 5, Applicant has been able to provide a method for quickly screening a piezoelectric apparatus during a manufacturing process (see, for example, the last paragraph on page 3 of the originally filed Specification).

As noted above, Applicant has amended claims 4 and 5 to be in independent form. The Examiner has alleged in paragraph no. 6 of the outstanding Office Action that reference number 2 of Massa teaches the feature of "a piezoelectric transformer apparatus including a piezoelectric member having an actuator and a generator provided in the piezoelectric member" recited in Applicant's claims 4 and 5. Applicant respectfully disagrees.

Massa clearly teaches in the paragraph bridging columns 2 and 3 that reference number 2 is a bimorph that "consist[s] of two bonded polarized ceramic plates, as is well known in the art, or ... of a single plate of polarized ceramic bonded to an inert plate of metal or other material." That is, contrary to the Examiner's allegation, Massa clearly fails to teach or suggest that reference number 2 includes an actuator and a generator as recited in Applicant's claims 4 and 5.

Kawamura et al. states in the first paragraph after the abstract on page 564 that "[t]he purpose of this study was to provide proof of concept for a compact and precise high voltage sensor using a piezoelectric element for **transducing a sinusoidal ac high voltage to a strain, and strain gage to provide an electrical output**" (emphasis added). That is, Kawamura et al. uses a strain gage to generate an electrical output, **NOT, a piezoelectric member** to generate an electrical output as recited in Applicant's claims 4 and 5. Thus, Kawamura et al. clearly fails to teach that the piezoelectric element includes an actuator and a generator as recited in Applicant's claims 4 and 5.

Thus, Applicant respectfully submit that Massa and Kawamura et al. fail to teach or suggest the feature of "a piezoelectric transformer apparatus including a piezoelectric

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member having an actuator and a generator provided in the piezoelectric member" recited in Applicant's claims 4 and 5 and certainly fail to teach or suggest the feature of "connecting a load impedance to said generator" as recited in Applicant's claims 4 and 5.

Applicant's claim 4 recites the feature of "the value of the load impedance is not less than about ten times an output impedance of the piezoelectric transformer apparatus." Applicant's claim 5 recites the feature of "the value of the load impedance is not more than about one tenth of an output impedance of the piezoelectric transformer apparatus." The Examiner has admitted in the third paragraph on page 6 of the outstanding Office Action that Massa and Kawamura et al. fail to teach or suggest these features.

In the third paragraph on page 6 of the outstanding Office Action, the Examiner alleged:

it would have been an obvious matter of **engineering design choice** to choose any desired relative values of load impedance ... of the piezoelectric transformer apparatus. Applicant has not disclosed that the load impedance[s] being not less [or not more] than 10 X the output impedance ... are claimed features which **solve any stated problem** or **are for any particular purpose**, and it appears that **the invention would perform equally well with the relative values of load impedance ...** taught by either Kawamura et al[.] or Massa. Furthermore, the relative values of load impedances ... as recited in the claims, **do not provide any manipulative difference** when compared to the process steps of the above prior art. (bold emphasis added)

First, the Examiner is reminded that the U.S. Patent Office Board of Patent Appeals and Interferences has concluded that a rejection on the basis of design choice is improper. In re Garrett, Appeal No. 580-81 (BPAI 1986) (wherein in reversing an obviousness rejection, the Board criticized that the Examiner's statement that the proposed modification would have been an obvious matter of engineering design choice with the explanation that such an assertion is a conclusion, not a reason). Further, the U.S. Court of Appeals for the Federal Circuit has concluded that a proper rejection must

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provide reasoning why a specific feature is a matter of design choice, and therefore obvious. In re Chu, 36 USPQ 2d 1089 (Fed. Cir. 1995). The Examiner has simply concluded that the features concerning the specific load impedances recited in Applicant's claims 4 and 5 are a matter of design choice and has completely failed to provide any reasons why the features concerning the specific load impedances recited in Applicant's claims 4 and 5 are, in fact, a matter of design choice.

Second, the Examiner has stated that the features concerning specific load impedances recited in Applicant's claims 4 and 5 do not "solve any stated problem" or "are for any particular purpose" and has stated "it appears that the invention would perform equally well with the relative values of load impedance ... taught by either Kawamura et al[,] or Massa." Applicant is completely bewildered with these new standards of patentability proposed by the Examiner. Applicant respectfully request that the Examiner provide case law, statute, rule, or MPEP section that supports the Examiner's proposed standards of patentability.

Third, the feature of "the value of the load impedance is not less than about ten times an output impedance of the piezoelectric transformer apparatus" recited in Applicant's claim 4 and the feature of "the value of the load impedance is not more than about one tenth of an output impedance of the piezoelectric transformer apparatus" recited in Applicant's claim 5 clearly provide a "manipulative difference" of connecting a specific impedance to the generator of the piezoelectric transformer apparatus recited in Applicant's claims 4 and 5 as compared to Massa and Kawamura et al.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 4 and 5 under 35 U.S.C. 103(a) as being unpatentable over Massa in view of Kawamura et al.

Accordingly, Applicant respectfully submits that Massa and Kawamura et al., applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in claims 4 and 5 of the present application. Claims 3, 6-13, and 21-28 depend upon claims 4 and 5, and are therefore allowable for at least

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the reasons that claims 4 and 5 are allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicant petitions the Commissioner for a ONE-month extension of time, extending to April 22, 2004, the period for response to the Office Action dated December 22, 2003.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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